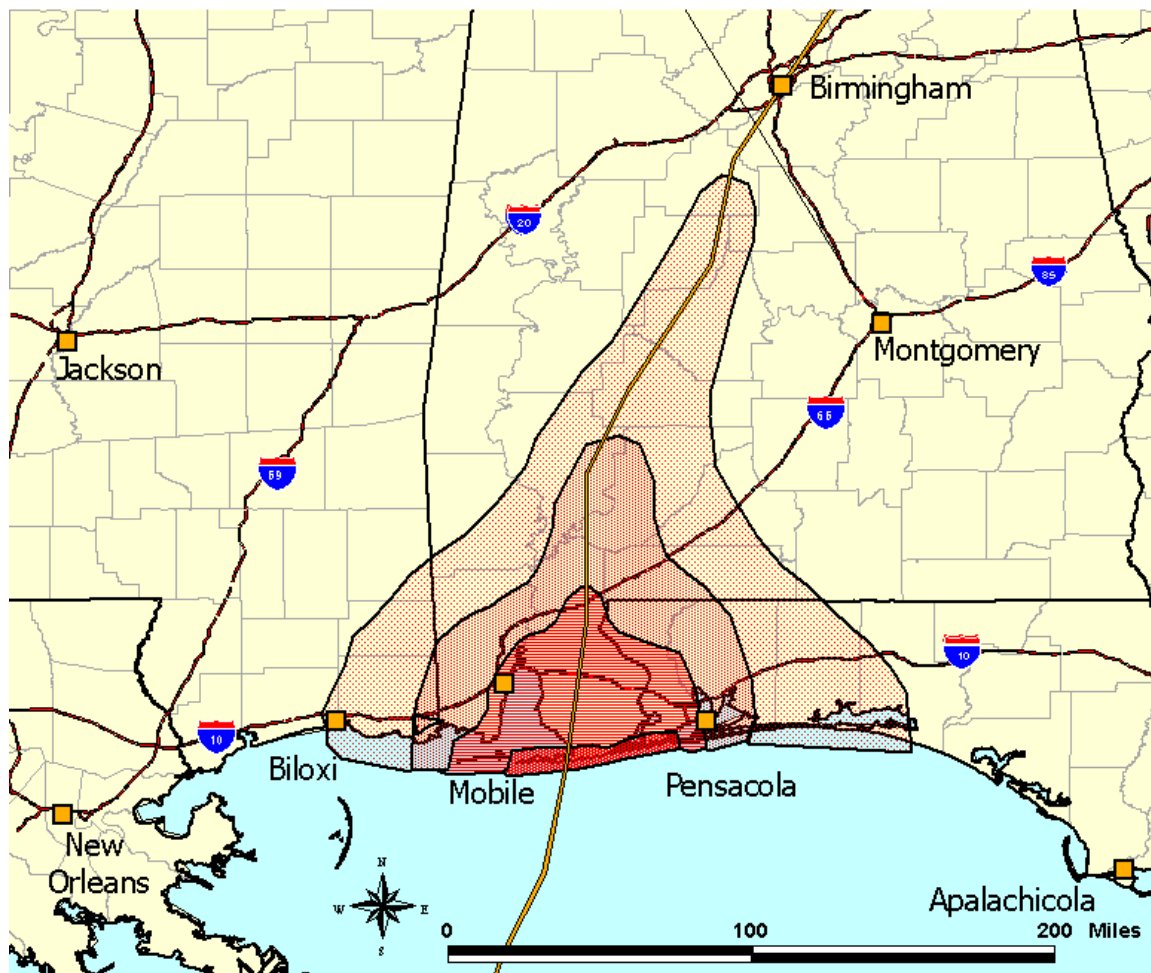


Hurricane Ivan Wind Distribution

Landfall Plus About **24** Hours

**For Official
Use Only!**



Most Probable Post-Landfall Wind Distribution

This hurricane scenario is based on a Category 3 storm making landfall in near proximity to Gulf Shores, AL. A small polygon of Category 4 wind was added for the barrier islands in proximity to the eyewall landfall.

Information provided on this page displays the most probable hurricane track based on information from the National Hurricane Center (NHC). These projections are based on information from the NHC **(0500 EDT 09/17/2004)** historic path.

Details about this model may be obtained at
<https://englink.usace.army.mil>
 or contact ENGLink at 1-877-936-4546



Hurricane Ivan Wind Field

Sources:
HURREVAC
LRL-DEBRIS

Generated By:
Terry Siemsen
Generated Date:
0630 EDT
09/17/2004

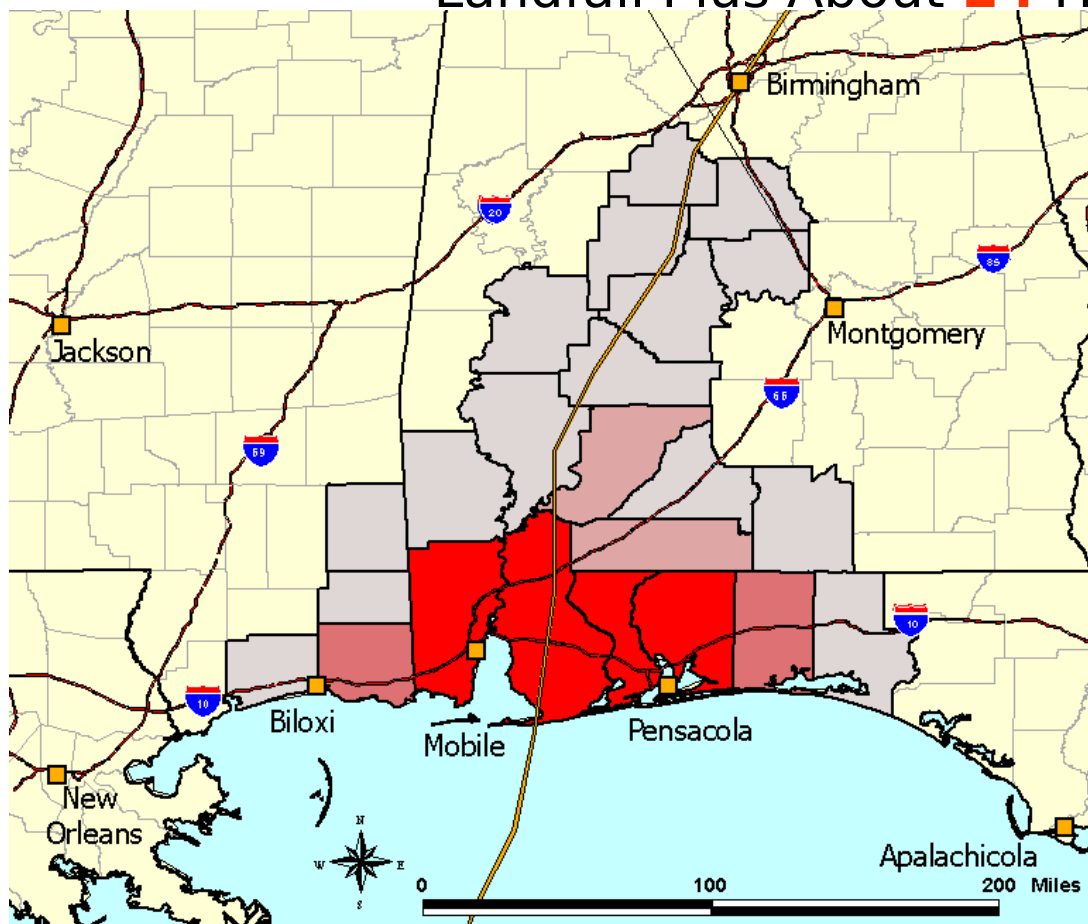
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Hurricane Ivan Debris Model

Landfall Plus About **24** Hours

**For Official
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Most Probable Landfall Debris Model Results

Alabama - 9,590,000 yd³

Florida - 9,402,000 yd³

Mississippi - 549,000 yd³

*Model results per county on
following page*

This hurricane scenario is
based on a Category 3 storm
making landfall in near
proximity to Gulf Shores, AL

Information provided on this page displays the most probable hurricane track based on information from the National Hurricane Center (NHC). These projections are based on information from the NHC **(0500 EDT 09/17/2004) historic path**.

The amount of debris forecasted is possible total volume, not necessarily the volume that may need to be removed with Federal funds.

Details about this model may be obtained at <https://englink.usace.army.mil>
or contact ENGLink at 1-877-936-4546



Hurricane Ivan Debris Model

Sources:
HURREVAC
LRL-DEBRIS

Generated By:
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Generated Date:
0630 EDT
09/17/2004

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Hurricane Ivan Debris Model

Landfall Plus About 24 Hours

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State	Yards per State	County	Yards per County
Alabama	9,590,000		
		Autauga	< 1,000
		Baldwin	3,793,000
		Bibb	7,000
		Chilton	4,000
		Clarke	85,000
		Conecuh	29,000
		Covington	< 1,000
		Dallas	65,000
		Escambia	185,000
		Marengo	4,000
		Mobile	5,225,000
		Monroe	136,000
		Perry	12,000
		Washington	18,000
		Wilcox	27,000
Florida	9,402,000		
		Escambia	7,856,000
		Okaloosa	432,000
		Santa Rosa	1,056,000
		Walton	58,000
Mississippi	549,000		
		George	27,000
		Greene	3,000
		Harrison	82,000
		Jackson	437,000
TOTAL	19,541,000		

The amount of debris forecasted is possible total volume, not necessarily the volume that may need to be removed with Federal funds.

Details about this model may be obtained at <https://englink.usace.army.mil>
or contact ENGLink at 1-877-936-4546



Hurricane Ivan Debris Model

Sources:
HURREVAC
LRL-DEBRIS

Generated By:
Terry Siemsen

Generated Date:
0630 EDT
09/17/2004

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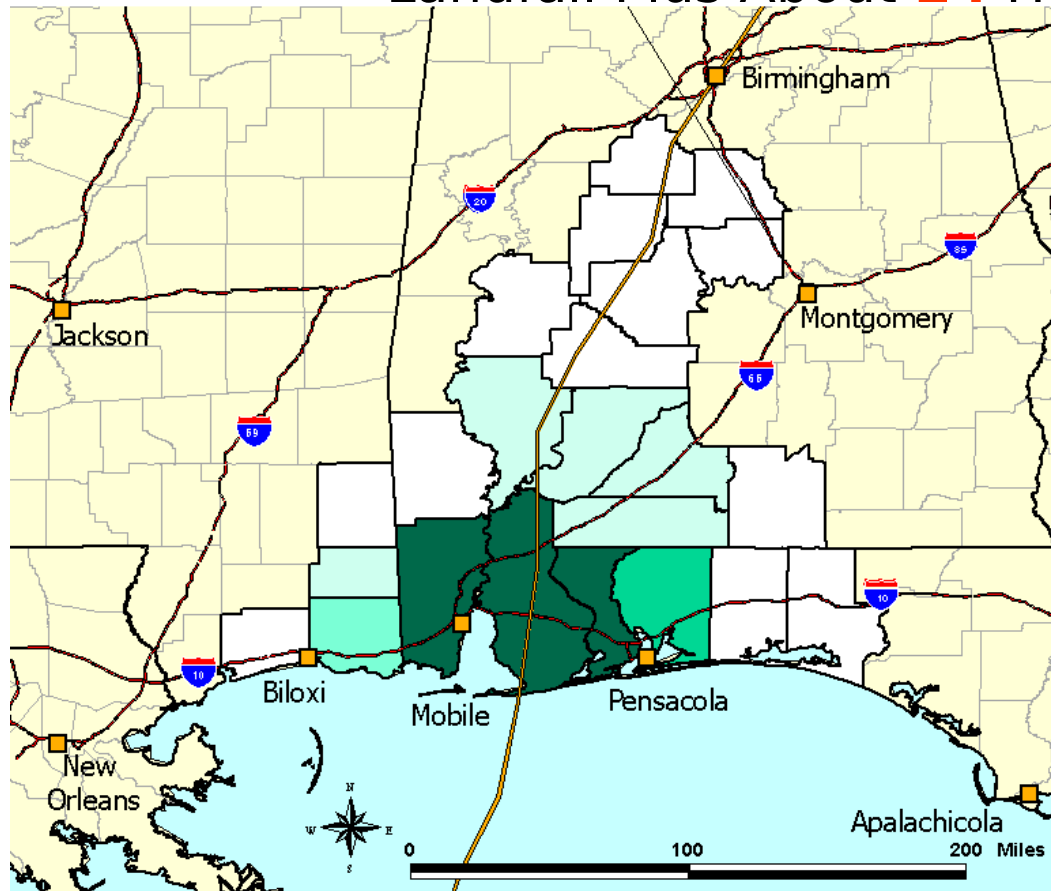




Hurricane Ivan Ice Model

Landfall Plus About **24** Hours

**For Official
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Most Probable Landfall Ice Model Results

Alabama -1,777,000 pounds
Florida - 1,505,000 pounds
Mississippi - 58,000 pounds

*Model results per county on
following page*

This hurricane scenario is
based on a Category 3 storm
making landfall in near
proximity to Gulf Shores, AL

Information provided on this page displays the most probable hurricane track based on information from the National Hurricane Center (NHC). These projections are based on information from the NHC **(0500 EDT 09/17/2004)** historic path. The intensity of this hurricane has been altered to complete model runs.

The amount of ice forecasted is based on Mission Guide Book requirements (8 pounds per day per person) and Ice SME input and represents a first day daily need.

Details about this model may be obtained at

<https://englink.usace.army.mil>

or contact ENGLink at 1-877-936-4546



Hurricane Ivan Ice Model

Sources:
HURREVAC
LRL-DEBRIS

Generated By:
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0630 EDT
09/17/2004

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Hurricane Ivan Ice Model

Landfall Plus About 24 Hours

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State	Pounds per State	County	Pounds per County
Alabama	1,777,000		
		Baldwin	604,000
		Clarke	15,000
		Conecuh	< 1,000
		Escambia	48,000
		Mobile	1,080,000
		Monroe	30,000
Florida	1,505,000		
		Escambia	1,265,000
		Santa Rosa	240,000
Mississippi	58,000		
		George	< 1,000
		Jackson	58,000
TOTAL	3,340,000		

The amount of ice forecasted is based on Mission Guide Book requirements (8 pounds per person) and Ice SME input and represents a first day daily need. The assumption in this scenario is that 60% of the resident population affected by Ivan will have power outage in this area will cause a need for ice.

Details about this model may be obtained at
<https://englink.usace.army.mil>
 or contact ENGLink at 1-877-936-4546



US Army Corps
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Hurricane Ivan Ice Model

Sources:
HURREVAC
LRL-DEBRIS

Generated By:
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Generated Date
0630 EDT
09/17/2004

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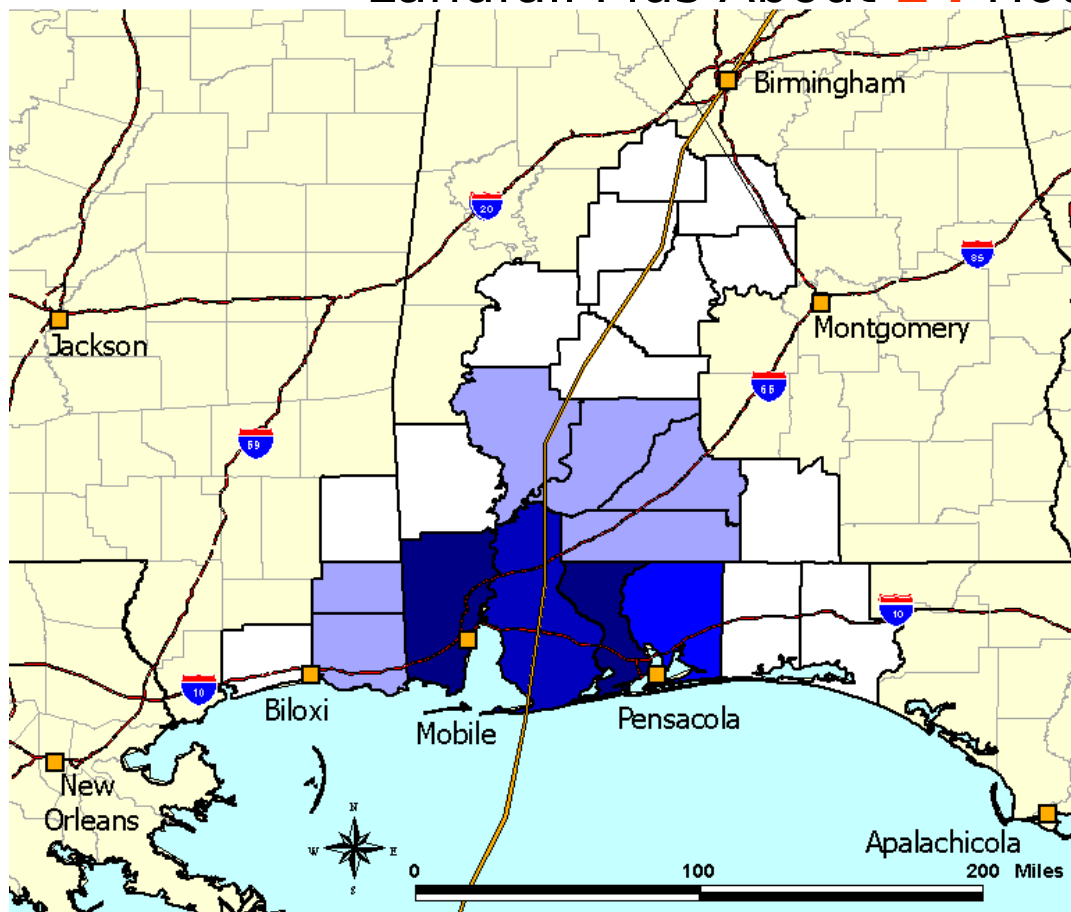


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Hurricane Ivan Water Model

Landfall Plus About **24** Hours

**For Official
Use Only!**



Most Probable Landfall Water Model Results

Alabama - 889,000 liters
Florida - 753,000 liters
Mississippi - 28,000 liters

*Model results per county on
following page*

This hurricane scenario is
based on a Category 3 storm
making landfall in near
proximity to Gulf Shores, AL

Information provided on this page displays the most probable hurricane track based on information from the National Hurricane Center (NHC). These projections are based on information from the NHC **(0500 EDT 09/17/2004)** historic path.

The amount of water forecasted is based on Mission Guide Book requirements (4 liters per person per day) and Water SME input and represents a first day daily need.

Details about this model may be obtained at
<https://englink.usace.army.mil>
or contact ENGLink at 1-877-936-4546



Hurricane Ivan Water Model

Sources:
HURREVAC
LRL-DEBRIS

Generated By:
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Generated Date
0630 EDT
09/17/2004

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Hurricane Ivan Water Model

Landfall Plus About **24** Hours

**For Official
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State	Liters per State	County	Liters per County
Alabama	889,000		
		Baldwin	302,000
		Clarke	8,000
		Conecuh	< 1,000
		Escambia	24,000
		Mobile	540,000
		Monroe	15,000
Florida	753,000		
		Escambia	633,000
		Santa Rosa	120,000
Mississippi	28,000		
		George	< 1,000
		Jackson	28,000
TOTAL	1,670,000		

The amount of water forecasted is based on Mission Guide Book requirements (4 liters per person) and Water SME input and represents a first day daily need. The assumption in this scenario is that 60% of the resident population affected by Ivan will have power outage in this area will cause a need for water.

Details about this model may be obtained at
<https://englink.usace.army.mil>
or contact ENGLink at 1-877-936-4546



Hurricane Ivan Water Model

Sources:
HURREVAC
LRL-DEBRIS

Generated By:
Terry Siemsen
Generated Date
0630 EDT
09/17/2004

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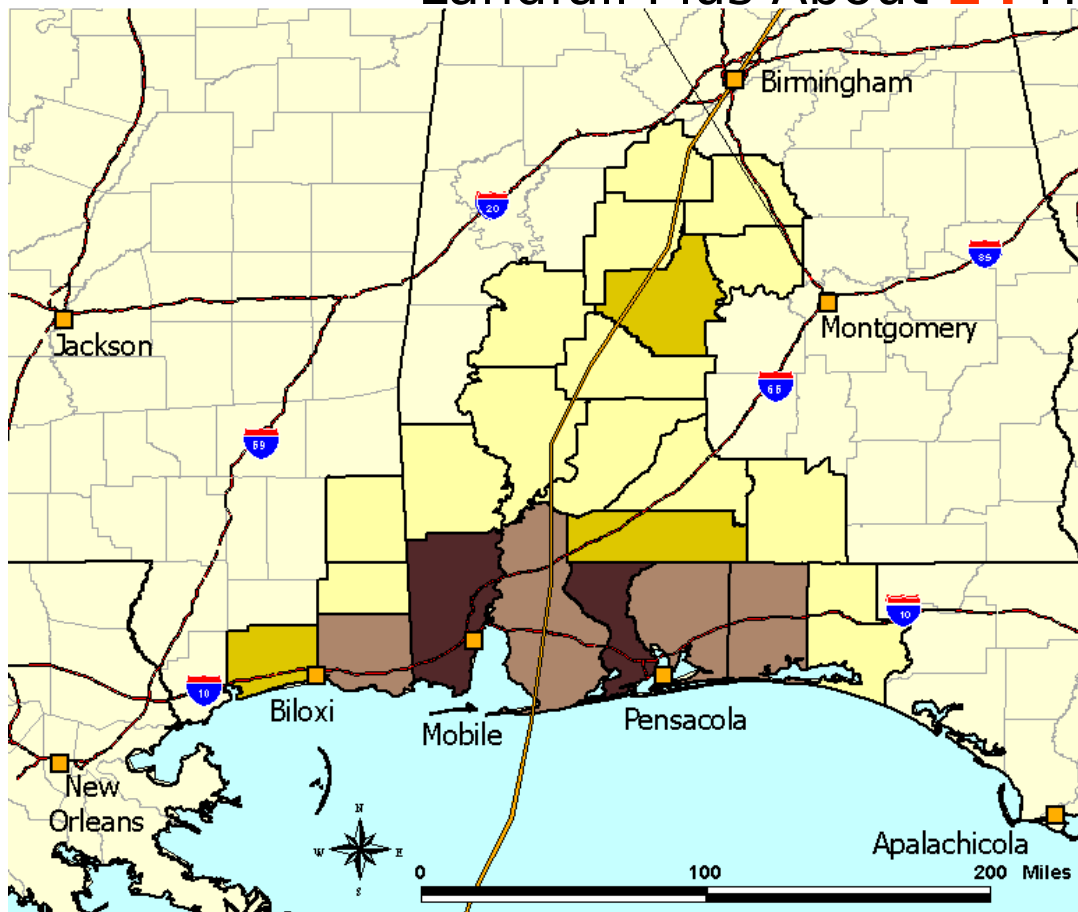
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Hurricane Ivan Population Model

Landfall Plus About **24** Hours

**For Official
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Most Probable Landfall Population Model Results

Alabama - 697,000 persons
Florida - 592,000 persons
Mississippi - 194,000 persons

*Model results per county on
following page*

This hurricane scenario is
based on a Category 3 storm
making landfall in near
proximity to Gulf Shores, AL

Information provided on this page displays the most probable hurricane track based on information from the National Hurricane Center (NHC). These projections are based on information from the NHC **(0500 EDT 09/17/2004)** historic path.

The number of persons included in this model output are those that would be included within estimated hurricane force winds (Census 2000 values).

Details about this model may be obtained at

<https://englink.usace.army.mil>

or contact ENGLink at 1-877-936-4546



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Hurricane Ivan Population Model

Sources:
HURREVAC
LRL-DEBRIS

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Generated Date
0630 EDT
09/17/2004

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Hurricane Ivan Population Model

Landfall Plus About **24** Hours

**For Official
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State	Population per State	County	Population
Alabama	697,000		
		Autauga	< 1,000
		Baldwin	140,000
		Bibb	4,000
		Chilton	2,000
		Clarke	22,000
		Conecuh	7,000
		Covington	< 1,000
		Dallas	33,000
		Escambia	38,000
		Marengo	2,000
		Mobile	400,000
		Monroe	24,000
		Perry	4,000
		Washington	9,000
		Wilcox	12,000
Florida	592,000		
		Escambia	295,000
		Okaloosa	169,000
		Santa Rosa	117,000
Mississippi	194,000		
		Walton	11,000
		George	16,000
		Greene	2,000
		Harrison	38,000
		Jackson	138,000
TOTAL	1,483,000		

The number of persons estimated to be within hurricane force winds comes from Census 2000 values.

Details about this model may be obtained at
<https://englink.usace.army.mil>
or contact ENGLink at 1-877-936-4546



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Hurricane Ivan Population Model

Sources:
HURREVAC
LRL-DEBRIS

Generated By:
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Generated Date:
0630 EDT
09/17/2004

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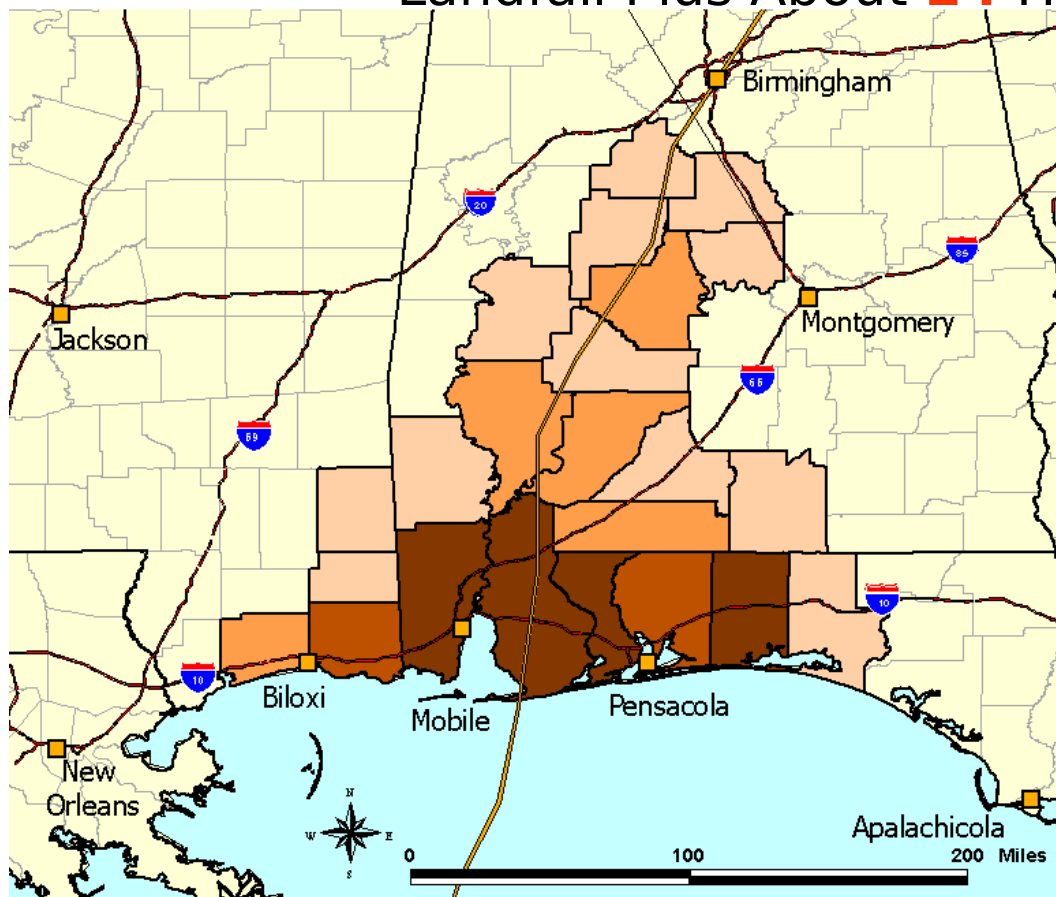
Page 2 of 2



Hurricane Ivan Households Model

Landfall Plus About **24** Hours

**For Official
Use Only!**



Most Probable Landfall Households Model Results

Alabama - 262,000 households
Florida - 226,000 households
Mississippi - 70,000 households

*Model results per county on
following page*

This hurricane scenario is
based on a Category 3 storm
making landfall in near
proximity to Gulf Shores, AL

Information provided on this page displays the most probable hurricane track based on information from the National Hurricane Center (NHC). These projections are based on information from the NHC **(0500 EDT 09/17/2004)** historic path.

The number of households included in this model output are those that would be included within estimated hurricane force winds (Census 2000 values).

Details about this model may be obtained at
<https://englink.usace.army.mil>
or contact ENGLink at 1-877-936-4546



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Hurricane Ivan Households Model

Sources:
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Generated By:
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09/17/2004

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Hurricane Ivan Households Model

Landfall Plus About **24** Hours

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State	Households per State	County	Households
Alabama	262,000		
		Autauga	< 1,000
		Baldwin	55,000
		Bibb	1,000
		Chilton	< 1,000
		Clarke	8,000
		Conecuh	3,000
		Covington	< 1,000
		Dallas	13,000
		Escambia	14,000
		Marengo	< 1,000
		Mobile	150,000
		Monroe	9,000
		Perry	2,000
		Washington	3,000
		Wilcox	4,000
Florida	226,000		
		Escambia	111,000
		Okaloosa	66,000
		Santa Rosa	44,000
Mississippi	70,000		
		George	6,000
		Greene	< 1,000
		Harrison	14,000
		Jackson	50,000
TOTAL	558,000		

The number of households estimated to be within hurricane force winds comes from Census 2000 values.

Details about this model may be obtained at
<https://englink.usace.army.mil>
 or contact ENGLink at 1-877-936-4546

 Hurricane Ivan Households Model	
Sources: HURREVAC LRL-DEBRIS	CELRL-OP GIS Group 
Generated By: Terry Siemsen Generated Date: 0630 EDT 09/17/2004	Page 2 of 2



Hurricane Ivan

Temporary Roofing Model Results

Landfall Plus About **24** Hours

**For Official
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Most Probable Landfall Temporary Roofing Model Results

**Alabama - 11,500
Florida - 10,500
Mississippi - 300**

*Model results per county on
following page*

**This hurricane scenario is
based on Category 3 storm
making landfall in near
proximity to Mobile, AL.**

Information provided on this page displays the most probable hurricane track based on information from the National Hurricane Center (NHC). These projections are based on information from the NHC **(0500EDT 9/17/2004)** historic path.

The amount of temporary roofing that may be required is based on no roofing need in CAT 1 wind areas, 3% of housing units damaged in CAT 2 wind areas, 8% of housing units damaged in CAT 3 wind areas, and 12% of housing units damaged in CAT 4 wind areas. This only indicates possible need - not necessarily a mission to repair roofs.

Details about this model may be obtained at
<https://englink.usace.army.mil>

or contact ENGLink at 1-877-936-4546



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Hurricane Ivan Temp Roofing Model

Sources:
HURREVAC
LRL-DEBRIS

Generated By:
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Generated Date
0630 EDT
9/17/2004

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Page 1 of 2



Hurricane Ivan

Temporary Roofing Model Results

Landfall Plus About **24** Hours

**For Official
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State	Structures per State	County	Structures per County
Alabama	11,500		
		Baldwin	4,500
		Clarke	100
		Escambia	200
		Mobile	6,500
		Monroe	200
Florida	10,500		
		Escambia	9,000
		Santa Rosa	1,500
Mississippi	300		
		Jackson	300
TOTAL	22,300		

**THIS IS AN EXPERIMENTAL MODEL !! THE VALUES ARE PRELIMINARY
AND SHOULD BE CONSIDERED A GUIDE BUT NOT AN ABSOLUTE VALUE !!**

The amount of temporary roofing that may be required is based on no roofing need in CAT 1 wind areas, 3% of housing units damaged in CAT 2 wind areas, 8% of housing units damaged in CAT 3 wind areas, and 12% of housing units damaged in CAT 4 wind areas. This only indicates possible need – not necessarily a mission to repair roofs.

Details about this model may be obtained at <https://englink.usace.army.mil>
or contact ENGLink at 1-877-936-4546



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Hurricane Ivan Temporary Roofing Model

Sources:
HURREVAC
LRL-DEBRIS

Generated By:
Terry Siemsen
Generated Date:
0630 EDT
9/17/2004

**CELRL-OP
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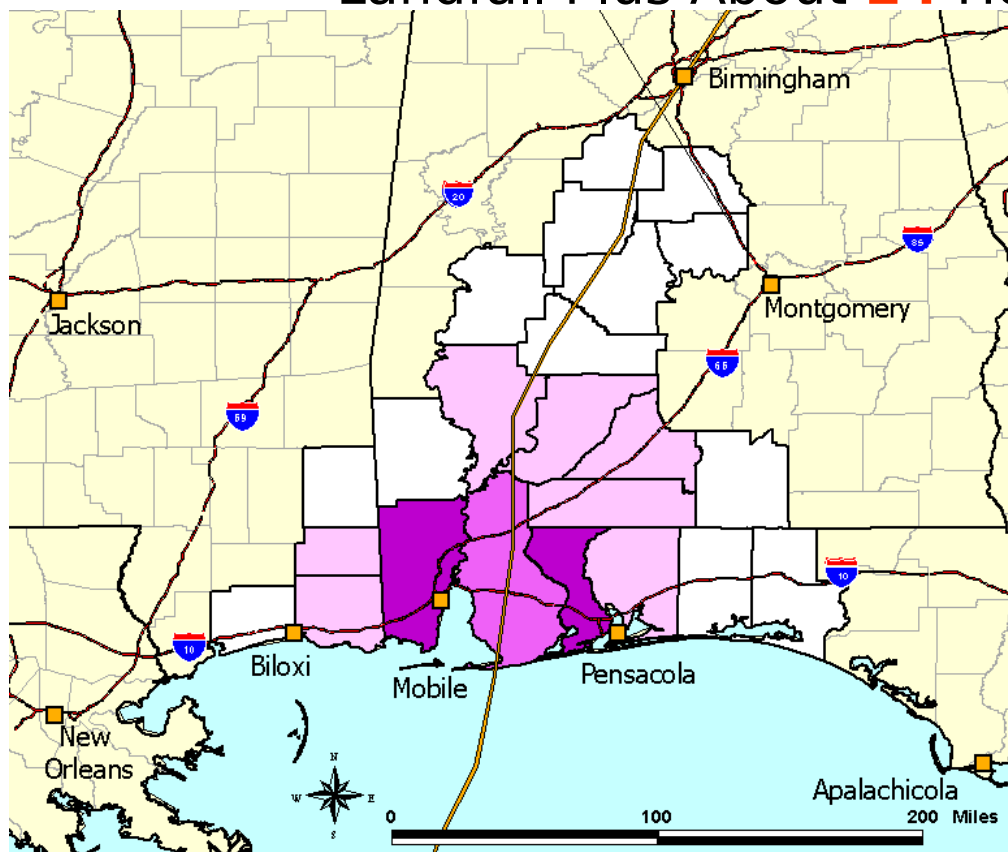
Page 2 of 2



Hurricane Ivan

Temporary Housing Model Results **For Official Use Only!**

Landfall Plus About **24** Hours



Most Probable Landfall Temporary Housing Model Results

**Alabama - 7,200
Florida - 6,400
Mississippi - 200**

*Model results per county on
following page*

This hurricane scenario is
based on a Category 3
storm making landfall in
near proximity to Gulf
Shores, AL

Information provided on this page displays the most probable hurricane track based on information from the National Hurricane Center (NHC). These projections are based on information from the NHC **(0500 9/17/2004)** historic path.

The amount of temporary housing that may be required is based on no housing need in CAT 1 wind areas, 2% of housing units lost in CAT 2 wind areas, 5% of housing units lost in CAT 3 wind areas, and 7% of housing units lost in CAT 4 wind areas.

Details about this model may be obtained at
<https://englink.usace.army.mil>
or contact ENGLink at 1-877-936-4546



Hurricane Ivan Temporary Housing Model

Sources:
HURREVAC
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9/17/2004

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Page 1 of 2



Hurricane Ivan

Temporary Housing Model Results

Landfall Plus About **24** Hours

**For Official
Use Only!**

State	Structures per State	County	Structures per County
Alabama	7,200		
		Clarke	< 100
		Monroe	100
		Escambia	200
		Mobile	4,100
		Baldwin	2,800
Florida	6,400		
		Santa Rosa	900
		Escambia	5,500
Mississippi	200		
		Jackson	200
TOTAL	13,800		

**THIS IS AN EXPERIMENTAL MODEL !! THE VALUES ARE PRELIMINARY
AND SHOULD BE CONSIDERED A GUIDE BUT NOT AN ABSOLUTE VALUE !!**

The amount of temporary housing that may be required is based on no housing need in CAT 1 wind areas, 2% of housing units lost in CAT 2 wind areas, 5% of housing units lost in CAT 3 wind areas, and 7% of housing units lost in CAT 4 wind areas.

Details about this model may be obtained at
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Hurricane Ivan Temporary Housing Model

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